CLAIMS

I Claim:

1. In a frequency band, a method of intelligent frequency hopping, comprising:

generating a good window and a bad window;

determining a desired frequency type based on a frequency sequence;

using an original hopping sequence to sample an original frequency in the frequency band; and

selecting the original frequency as an operating frequency when the original frequency is a desired frequency type.

2. The method of claim 1 further comprising using a frequency from a good window when the original frequency is not a desired frequency type, and the desired frequency type is a good frequency.

3. The method of claim 1 further comprising using a frequency from a bad window when the original frequency is not a desired frequency type. and the desired frequency type is a bad frequency.

4. The method of claim 1 wherein generating comprises:

determining the number of good channels and the number of bad channels in a frequency band;

defining the ratio of good channels to bad channels as a ratio, Q (the ratio); and

defining a good window size as a number of good channels, defining a bad window size as a number of bad channels, such that the ratio of the good window size to the bad window size is Q.

5. The method of claim 1 wherein the frequency sequence is defined as a number of channels of a first type, followed by a number of channels of a second type, such that the ratio of the number of channels of the first type to the number of channels of the second type is Q.

6. The method of claim 1 wherein the frequency sequence is defined as a number of channels of a first type, followed by a number of channels of a second type, such that the ratio of the number of channels of the first type to the number of channels of the second type is 1/Q.

7. The method of claim 5 wherein the first type is a good channels and the second type is a bad channel.

8. The method of claim 6 wherein the first type is a bad channels and the second type is a good channel.

9. The method of claim 1 further comprising:

sampling a plurality of channels in the frequency band;

identifying each channel in the plurality of channels as a good channel or a bad channel as a function of a predetermined factor; and

assigning the good channels to a good window and the bad channels to a bad window.

10. The method of claim 1 wherein sampling the plurality of channels samples all channels available to a network.

11. The method of claim 1 wherein the good channel is defined as a channel having at least a predetermined Quality Level of Service.

12. The method of claim 1 wherein the bad channel is defined as a channel having less than a predetermined Quality Level of Service.

13. The method of claim 1 wherein each window has an even number of slots to which the channels may be assigned.

14. The method of claim 1 further comprising the act of assigning a first size to a good window, and a second size to a bad window, such that the ratio of the size of the good window the size of the bad window is approximately the same as the ratio of the good channels in the band to the bad channels in the band (the ratio) over time.

15. The method of claim 4 further comprising detecting a good channel, and ignoring the good channel when a bad window is being generated.

16. The method of claim 2 wherein using uses all of the channels in the good window are used before any channels in the bad window are used.

17. In a frequency band, a method of intelligent frequency hopping, comprising:

identifying each channel in the frequency band as a good channel or a bad channel;

determining a ratio of the good channels to the bad channels (the ratio);

assigning a first size to a good window, and a second size to a bad window, such that the ratio of the size of the good window to the size of the bad window is the same as the ratio;

assigning good channels to the good window and bad channels to the bad window;

determining a desired frequency type based on a frequency sequence;

using an original hopping sequence to sample an original frequency in the frequency band; and

selecting the original frequency as an operating frequency when the original frequency is a desired frequency type.

18. The method of claim 17 wherein the frequency sequence is defined as a number of channels of a first type, followed by a number of channels of a second type, such that the ratio of the number of channels of the first type to the number of channels of the second type is Q.

19. The method of claim 17 further comprising transmitting an idle signal when a bad channel is selected.

20. In a frequency band, a method of intelligent frequency hopping, comprising:

in the frequency band, determining a ratio of the number of the good channels to the number of the bad channels (the Q ratio);

assigning a first size to a good window, and a second size to a bad window, such that the ratio of the size of the good window to the size of the bad window is the same as the Q ratio;

defining a frequency sequence as a number of channels of a first type, followed by a number of channels of a second type, such that a ratio of the number of channels of the first type to a number of channels of the second type is the Q ratio;

using an original hopping sequence to sample an original frequency in the frequency band;

selecting the original frequency as an operating frequency when the original frequency is a desired frequency type; and

using a frequency from either a good window or a bad window when the original frequency is not a desired frequency type.